

**MANUFACTURE OF THIN FILM TRANSISTOR (08-032085)****Publication Number:** JP 8032085 A) , February 02, 1996**Inventors:**

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- H01L-029/786
- H01L-021/336
- C23C-016/44
- C23C-018/12
- C30B-029/06
- G02F-001/136
- H01L-021/205

**JAPIO Class:**

- 42.2 (ELECTRONICS--- Solid State Components)
- 12.6 (METALS--- Surface Treatment)
- 13.1 (INORGANIC CHEMISTRY--- Processing Operations)
- 29.2 (PRECISION INSTRUMENTS--- Optical Equipment)
- 44.9 (COMMUNICATION--- Other)

**JAPIO Keywords:**

- R002 (LASERS)
- R004 (PLASMA)
- R011 (LIQUID CRYSTALS)
- R096 (ELECTRONIC MATERIALS--- Glass Conductors)

**Abstract:**

**PURPOSE:** To form a silicon thin film easily and reliably by a method wherein a silicon thin film, which is used as a channel semiconductor film, is coated with a specified liquid silicon hydride film and thereafter, is made to have a heat history comprising a heat-up process and is made to decompose within the applied film.

**CONSTITUTION:** A silicon thin film used as a channel semiconductor film is coated with a liquid silicon hydride film containing an Si<sub>(sub m)</sub>H<sub>(sub 2)m+2</sub> or Si<sub>(sub n)</sub>H<sub>(sub 2n)</sub> (provided that the (m) and the (n) are such an integer

as to satisfy each condition of  $m \geq 5$  and  $n \geq 4$ .) on a substrate 105 and thereafter, is heated up by a heating means, is made to have a heat history comprising a heat-up process, is made to decompose in the applied film and a silicon thin film to satisfy characteristics requisite as a TFT material is formed on the substrate 105. Thereby, the silicon thin film can be formed easily and reliably.

JAPIO

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